

microns. The solid particles are removed to a container 40 and will be able to be transferred thereafter to a washing tank external to the system with a filter press for the impurities precipitated by the neutralization and for recovering the materials to be recycled in a container of the 36 type. The 40% NaOH solution is recovered via the outlet 41. It will be put into drums and sold for another use or else introduced into the tank 24 in order to obtain a neutralizing agent and thus increase the profitability of the process.--.

A10  
could

**Delete the third full paragraph, at page 9, lines 20-27, and insert therefor the following:**

--During temporary shut-down or shut-down of short duration of the plant, the heating of the master tank 5 and possibly buffer tank must not be cut off. For a complete shut-down, it will be essential to drain, while hot, the buffer tank 20 to the master tank 5 and then via the line 43, connected to a battery of drums in which the solution will crystallize. To reuse the NaOH, the drums will be placed in the oven 1.--.

A11

#### **IN THE CLAIMS**

Please cancel Claims 1 - 16 without prejudice or disclaimer, and add the following new Claims 17 - 31.

A12

--17. (new) Process for treating vulcanized rubber waste, particularly tyres of all sizes and of all types and/or of other worn reinforced-rubber articles, such as boots, inflatable boats, this process comprising:

- coarse cutting of the said waste into fragments, and
- attacking said fragments using a molten pure base,

characterized in that said attacking of the fragments is carried out under temperature

- separating said molten base from said deconsolidated solid fragments,
- neutralizing the deconsolidated solid fragments, and
- recycling or reutilizing the neutralized, deconsolidated solid fragments.

18. (new) Process according to Claim 17, characterized by the use of molten pure cast NaOH as the attacking liquid.

19. (new) Process according to Claim 17, characterized in that said separation comprises sedimentation of the deconsolidated fragments, separated beforehand from the molten base, in a settling and neutralizing liquid, and, after removal of the settling and neutralizing liquid, recovery of the deconsolidated fragments.

20. (new) Process according to Claim 17, characterized in that it comprises a recycling of the molten pure base.

21. (new) Process according to Claim 18, characterized in that the molten NaOH treatment temperature is at most 400°C, advantageously at most 350°C.

22. (new) Process according to Claim 17, characterized in that the deconsolidated solid fragments comprise metal fragments and fragments made of synthetic material and in that the process furthermore includes sorting between the metallic and synthetic deconsolidated fragments before they are recycled or reutilized.

23. (new) Process according to Claim 17, characterized in that the deconsolidation treatment takes place in a closed reactor, the materials to be treated completely immersed.

24. (new) Process according to Claim 17, characterized in that the neutralization uses dilute acids, preferably phosphoric acid, more advantageously waste from certain phosphoric acid solutions.

25. (new) Plant for implementing the process for treating vulcanized-rubber waste according to Claim 17, characterized in that it forms a completely closed system, with no atmospheric pollution, which comprises:

- a device for melting said pure base;
- a reactor into which said vulcanized-rubber waste, coarsely cut into pieces, and said molten pure base as attacking medium are introduced, and in which reactor temperature conditions are applied causing deconsolidation of the vulcanized-rubber waste into solid fragments deconsolidated under the action of the attacking medium;
- a separating device allowing the molten base serving as the attacking medium to be separated from the deconsolidated solid fragments;
- a neutralizing device fed with neutralizing agent from a source of neutralizing agent, in which device the deconsolidated solid fragments are neutralized; and
- a device for sorting the neutralized, deconsolidated solid fragments.

26. (new) Plant according to Claim 25, characterized in that the reactor has closeable inlet and outlet openings, stirring equipment, and in that said separating device comprises a filter if necessary unclogged by a compressed-air device capable of retaining inside the reactor particles greater than 1 mm.

27. (new) Plant according to Claim 25, characterized in that the neutralizing device comprises a tank provided with an inlet communicating with the outlet of the reactor, and with an outlet, the inlet and outlet being closeable, stirring equipment and a filter if necessary unclogged by the compressed-air device in the output line with extension, spraying equipment for facilitating the neutralization via a line.

28. (new) Plant according to Claim 25, characterized in that the neutralizing device comprises a tank for injection of neutralized liquid and for recovery.

29. (new) Plant according to Claim 25, characterized in that the neutralizing device comprises another tank which contains acid waste and is connected to a mixing unit in the line.

30. (new) Plant according to Claim 25, characterized in that it comprises devices for cleaning the precipitates and small particles, during treatment.

31. (new) Plant according to Claim 25, characterized in that the sorting device comprises a device for transporting the deconsolidated materials with magnetic separation of the metallic materials, possibly combined with an eddy-current system for the non-ferrous materials.